

REMARKS

Reconsideration is respectfully requested.

Claims 1-42 are pending in the application. Claims 1, 3, 5, 12, 13 and 22 have been amended to more clearly define the invention as claimed. Claim 11 has been cancelled. Claims 22-42 have been amended to change dependency, thus overcoming the double patenting indication to the application set forth in the Office Action.

Claims 1-42 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,991,078 to Yoshitake et al. (“Yoshitake”). Claims 21 and 42 have been separately rejected under 35 U.S.C. §103(a) as being obvious over Yoshitake in view of U.S. Patent No. 6,359,734 to Staub et al. (“Staub”). Applicants respectfully traverse these rejections below.

In paragraph 4 of the Office Action, Claims 1-20 and 22-41 have been rejected under 35 U.S.C. §102(e) as being anticipated by Yoshitake. Yoshitake is directed to a display medium that represents a display pattern using the contours of diffraction gratings. The display patterns in the diffraction gratings move smoothly as the visual reference point moves. Yoshitake further discloses multiplexing multiple display patterns using fine mesh pixels.

The present invention is directed generally to a diffractive device having background diffractive structural elements and interstitial diffractive structural elements. The diffractive action of the background elements is modulated by the interstitial elements. The combination of background elements and interstitial elements may occupy a variety of configurations. In one embodiment, the device includes a plurality of interstitial diffractive structural elements, wherein each of the plurality of interstitial elements are interspersed at least partially longitudinally adjacent to one or more of the background elements. In another embodiment, the device includes a plurality of interstitial diffractive structural elements, wherein at least some of the plurality of interstitial elements are smoothly connected to one or more of the background elements.

The above amendments to Claim 1 serve to define the invention more clearly and to more certainly distinguish it from Yoshitake. As now defined, the invention recited in Claim 1 requires that an area of the device that contains interstitial elements is crossed by background elements, or at least that background elements extend into an area of the interstitial elements within the background elements which gives the advantage that it is much more difficult to decode the optical effect mechanisms, giving better security against re-origination by reverse engineering (see

specification, page 10, lines 3-13). This “embedment” also assists in minimizing the prior art problem of extraneous scattering effects (see specification page 9, line 25, to page 10, line 2).

In *Yoshitake*, the diffraction gratings A or A’ (Figs. 3 or 5) are contained within a background diffraction grating B or B’. However, the interstitial gratings A or A’ are not interspersed between the background gratings B or B’ “such that each of the ...interstitial elements extends at least partially longitudinally alongside a background element,” as is now recited in Claims 1 and 22. The actual disclosure of *Yoshitake* does not support the contrary interpretation recited upon in the rejection. Thus, in *Yoshitake* the display pattern A or A’ is a quite distinctly different diffraction grating compared to the background grating B or B’, as is evident from col. 6, lines 28-43 and Fig 1(a) contrasted with Fig 1(b). That the diffraction gratings are distinctly different is reinforced by the disclosure at col. 7, line 67 to col. 8, line 6. There is no disclosure to support an interpretation that a background grating B or B’ extends into and between an area containing the interstitial gratings A or A’. The fact that some of the schematic lines representing diffraction “grooves” B’ drawn on Fig 5 meet with some of the schematic lines representing diffraction “grooves A” of the display patterns DNP, such that a line representing an A’ “groove” appears to be a continuation of a line representing a B’ groove, is merely happenstance and not a disclosure that a “groove” B’ extends into an area of A’ “grooves” or that a background “groove” B’ is smoothly connected to an interstitial “groove” A’ (as has been interpreted by the Office Action). To the contrary, the fact that the A or A’ and B or B’ gratings are quite different together with that fact that the A, A’ gratings are contained in a “cut out” area of the background B, B’ grating (col. 6, lines 37-43), leads to an interpretation that the transition between the B’ and A’ gratings is sharp, that is, a smooth connection between the two would not exist. The disclosures in *Yoshitake* of a “smooth connection” between diffraction gratings (eg, col. 2, lines 4-12, col. 7, lines 32-47) relates to construction of a grating A, A’ or B, B’ as such and not to a transition from one to the other. See col.7, line 7 to col.8 line 10, and Fig 4.

Given the distinction of base Claim 1 over *Yoshitake*, as above, dependent Claims 2-21 are also allowable for the same reasons, and additionally because of the additional limitations recited in those dependent claims.

Claim 22 was also rejected under 35 USC§102(e) in view of *Yoshitake*. The above amendment (to Claim 22) adds a feature which aligns it more closely with Claim 1. Claim 22 defines that “at least some of the plurality of interstitial elements are smoothly connected to one or

more of the background elements.” This is not disclosed by Yoshitake, as submitted above with reference to Claim 1. Thus, the invention as defined by Claim 22 is also distinguished from Yoshitake. In particular, the invention of Claim 22 gives the advantage of minimization of the prior art problem of extraneous scattering effects (for a complete discussion, see specification, page 17, lines 15-17).

Given that base Claim 22 is distinguished over Yoshitake, as above, it is submitted that its dependent Claims 23 through 42 are similarly distinguished and thus allowable.

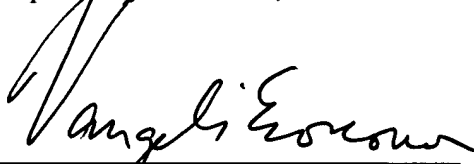
Claims 21 and 42 have been rejected as obvious over Yoshitake in view of Staub et al (US Patent No. 6,359,734). Given base Claims 1 and 22 are distinguished over the primary reference of Yoshitake, as described above, it is respectfully submitted that the rejection fails to set forth a *prime face* case of obviousness. Staub fail to teach the elements shown not to be taught by Yoshitake, and thus recited elements in Claims 21 and 42 are not disclosed by the references, either taken together or separately.

Claims 2-21 and 23-42 are dependent on independent Claims 1 and 22, respectively. Dependent Claims 2-21 and 23-42 are allowable because they depend on allowable base claims and for the additional limitations included in each of the dependent claims. Accordingly, Claims 2-21 are also allowable over the cited references.

In view of the foregoing amendments and remarks, it is believed that the outstanding rejections have been traversed.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter. Should there exist any minor issues that can be easily resolved by a telephone conference, the Examiner is requested to call the Applicants’ undersigned representative at the number provided below.

Respectfully submitted,



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